

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A receiver that receives a plurality of inputs indicative of a sensed magnetic flux induced by a marker, said marker excited by an excitation source, said receiver comprising:

a sensor configured to receive a plurality of inputs;

a correlation processor for analyzing said plurality of inputs in a coherent manner and for generating a subset of the plurality of inputs by discarding corrupted inputs from the plurality of inputs, wherein inputs, said correlation processor acting on said plurality of inputs that are acquired when a therapeutic radiation source is inactive are considered corrupted.

2. (Currently Amended) The receiver of Claim 1 wherein said therapeutic radiation source is used in the treatment of a human.

3. (Currently Amended) The receiver of Claim 1 further including a matched filter that is adapted to detect interference from said therapeutic radiation source.

4. (Currently Amended) The receiver of Claim 1 further including a signal line between said therapeutic radiation source and said receiver that carries a signal indicative of activity of said therapeutic radiation source.

5. (Currently Amended) The receiver of Claim 1 wherein said therapeutic radiation source is a linear accelerator.

6. (Currently Amended) A method of irradiating a patient with radiation from a therapeutic radiation source, said radiation targeted by the use of a marker associated into said patient, the method comprising:

applying an excitation to said marker using an excitation source;

using a receiver to receive a plurality of inputs indicative of a sensed magnetic flux induced by said marker in response to said excitation;
discarding selected data from said plurality of inputs to generate a subset of the plurality of inputs such that said subset of the plurality of inputs includes data gathered when said receiver was not subject to interference from said therapeutic radiation source; and
using a processor to perform an analysis on said subset of the plurality of inputs in a coherent manner to locate said marker; and
~~synchronizing said radiation source and said processor such that said processor performs said analysis on the received said plurality of inputs that are not subject to interference from said radiation source.~~

7. (Currently Amended) The method of Claim 6 wherein said therapeutic radiation source is used in the treatment of a human.

8. (Currently Amended) The method of Claim 6 wherein said receiver includes a matched filter that is adapted to detect interference from said therapeutic radiation source.

9. (Currently Amended) The method of Claim 6 wherein said receiver includes a signal line between said therapeutic radiation source and said receiver that carries a signal indicative of activity of said therapeutic radiation source.

10. (Currently Amended) The method of Claim 6 wherein said therapeutic radiation source is a linear accelerator.

11. (Currently Amended) A method of irradiating a patient with radiation from a therapeutic radiation source, said radiation targeted by the use of a marker associated into said patient, the method comprising:

applying an excitation to said marker using an excitation source;

using a receiver to receive a plurality of inputs indicative of a sensed magnetic flux induced by said marker in response to said excitation;

discarding corrupted inputs subject to interference from said therapeutic radiation source from said plurality of inputs to create a subset of said plurality of inputs; and

using a processor to perform an analysis on said subset plurality of inputs in a coherent manner to locate said marker, said plurality of inputs gathered when not subject to interference from said radiation source.

12. (Currently Amended) The method of Claim 11 wherein said therapeutic radiation source is used in the treatment of a human.

13. (Currently Amended) The method of Claim 11 wherein said receiver includes a matched filter that is adapted to detect interference from said therapeutic radiation source.

14. (Currently Amended) The method of Claim 11 wherein said receiver includes a signal line between said therapeutic radiation source and said receiver that carries a signal indicative of activity of said therapeutic radiation source.

15. (Currently Amended) The method of Claim 11 wherein said therapeutic radiation source is a linear accelerator.